

Abstract of the Disclosure

When applying reactive ion etching on a ZnSe polycrystalline substrate, reactive gas used therefor is only chlorine-based gas which does not include a hydrocarbon group. Or the reactive gas is gas prepared by mixing chlorine-based gas which does not include a hydrocarbon group with other gas. The
5 other gas is inert gas or gas which does not react to ZnSe. BCl_3 gas is one kind of chlorine-based gas. Ar gas is one kind of inert gas. RF power is one means for activating the gas.